

Before The  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554

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FEDERAL COMMUNICATIONS COMMISSION  
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In the Matter of )  
 )  
USA Digital Radio Partners, L.P. )  
Petition for Rulemaking )  
to permit the introduction of ) RM-9395  
digital audio broadcasting (DAB) )  
in the AM and FM bands )

To: The Commission

COMMENTS OF GREATER MEDIA, INC.

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## SUMMARY

Greater Media, Inc. hereby files its comments respecting the Petition for Rule Making (Petition) filed by USA Digital Radio Partners, L.P. (USADR) respecting implementation of in-band on-channel (IBOC) digital audio broadcasting (DAB). Greater Media wholeheartedly supports the efforts under way to develop IBOC DAB, which is essential to the long-term success of the United States radio broadcast service. An IBOC DAB system represents by far the best solution because it would use no new spectrum and would be compatible with the current universe of radio receivers. Such a system, if viable, will permit a seamless transition to DAB.

At the same time, Greater Media opposes the Petition insofar as it seeks implementation of USADR's IBOC DAB standard at this time. Any IBOC DAB rules in advance of the completion of the exhaustive testing program now under way would be premature. There is simply insufficient evidence that IBOC DAB works. Ultimately, assuming that a workable IBOC DAB system can be developed, Greater Media agrees with USADR that the Commission should select a single IBOC DAB standard. Greater Media also believes that any IBOC DAB solution should address both AM and FM service and should incorporate a long (e.g., 12-15 years) transition period. Finally, in order to provide the best opportunity to develop IBOC DAB, Greater Media urges the Commission to protect AM and FM service from any additional crowding of the spectrum during the IBOC DAB testing program, deferring action on any plans for new AM or FM services.

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**COMMENTS OF GREATER MEDIA, INC.**

Greater Media, Inc. ("Greater Media"), through its attorneys and pursuant to Section 1.405 of the rules, hereby files its comments in response to the Commission's Public Notice<sup>1</sup> inviting comment on the above-referenced Petition for Rule Making (Petition) filed by USA Digital Radio Partners, L.P. (USADR) (Petitioners) respecting implementation of in-band on-channel (IBOC) digital audio broadcasting (DAB). In support thereof, the following is shown:

**A. Introduction**

1. Greater Media has been a broadcast licensee for over thirty years, operating both AM and FM stations in communities large and small in many areas of the United States. Today, Greater Media, individually or through various subsidiaries, is the licensee of stations in markets including Boston, Massachusetts, Philadelphia, Pennsylvania, Detroit, Michigan and New Brunswick, New Jersey. As a longtime licensee, Greater Media has

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<sup>1</sup>Public Notice, DA 98-2244, released November 6, 1998.

participated extensively in Commission proceedings over the years looking toward amendment of the technical rules which are critical to maximizing high-fidelity interference-free broadcasting service to the public.

2. Greater Media in particular has actively participated in a number of industry forums since the concept of DAB was initially introduced in the United States with the showcasing of the European Eureka 147 DAB system in the early 1990's. In fact, Greater Media was one of the original U.S. broadcaster representatives which visited France to learn more of the Eureka system. More recently, Greater Media has participated in virtually all National Radio Systems Committee (NRSC) activities relative to DAB as a member of its DAB subcommittee and various working groups. Greater Media personnel assisted in the development of the first round of IBOC DAB laboratory and field test procedures and were active in the laboratory test program. Indeed, Greater Media was the only broadcast company that actually contributed funds to the establishment and operation of the DAB test laboratory. Greater Media's Vice President of Radio Engineering currently serves both as chairman of the NRSC's DAB subcommittee and as a member of several of its working groups. As a result of these activities, Greater Media has acquired an intimate knowledge of the problems and promise of IBOC DAB. Under the circumstances, Greater Media is well versed in the

intricacies of IBOC DAB and urges the Commission to move forward in a manner consistent with the views expressed herein.

3. Preliminarily, Greater Media supports much of the USADR Petition. Greater Media strongly believes that the introduction of a workable, robust IBOC DAB system is very much in the public interest and is, moreover, essential to the continued success of the U.S. radio broadcast service. The world is rapidly converting to a digital system of information dissemination. Digital is everywhere. With the introduction of compact disks, mini disks, DTV, and the anticipated introduction of several satellite-delivered audio program services, U.S. AM and FM radio clearly must migrate to digital platforms or risk becoming the only remaining form of broadcasting, or indeed source of audio, operating in the analog mode. Free over-the-air radio provides the United States public its primary and, in most cases, its only source of a real time audio broadcast service; for this reason, the public would be well served by an orderly transition to the many advantages and improvements inherent in a wholly digital broadcast service.

4. At the same time, Greater Media desires to stress its view that adoption now of any DAB rules or standards, whether or not IBOC-based, would be wholly premature. As described below, exhaustive testing is underway by three proponents of IBOC DAB to determine its viability. These proponents are investing substantial time and resources to study the issue. The outcome of their collective efforts is a necessary predicate to any

formal Commission proposal concerning IBOC DAB. This evaluative process is far from complete. Further, the Commission, broadcasters and the public all will benefit from a testing program which does not favor the transmission standard of any party at this time. For this reason, Greater Media opposes the USADR Petition to the extent that it seeks adoption of USADR's system as the IBOC DAB transmission standard. Commission endorsement of the USADR system would be palpably unfair to other parties working to develop IBOC DAB and otherwise contrary to the public interest.

**B. IBOC: Theoretically the Best Solution for the United States**

5. Although there are a number of methods by which U.S. radio broadcasters could make the digital migration, including solutions which involve new spectrum and Eureka 147-like station clustering on common transmission platforms, it is clear that, assuming one or more systems can be shown to perform adequately, an IBOC system solution is by far the best solution for the United States. Most notably, spectrum is fully conserved -- there will be no new spectrum needed to implement the service. Further, the current economic model and the current coverage and market relationships among stations, which have been so successful in facilitating a robust universally available over-the-air commercial radio broadcast service, would be wholly preserved. It should be stressed that, in this instance, maintenance of the status quo should be a major consideration where, as here, extensive modification of the technical underpinnings of the finest

system of radio broadcasting in the world is at issue. Perhaps most important, a properly implemented IBOC DAB service would be wholly compatible with the current radio receiver universe. A seamless migration to a wholly digital service could be made over a multi-year transition period, with no listener disenfranchisement as a result of the transition. This is a substantial benefit which is well worth achieving through careful implementation of DAB.

6. An IBOC DAB system, which obviates the requirement for new spectrum and avoids any potential disruption of the existing broadcast infrastructure, will enable a seamless migration to the new services accomplished at a pace appropriate to both the broadcaster and the listener. From a regulatory standpoint, burdens are minimized since stations will continue to utilize their existing, assigned spectrum for the new service. Although a series of new rules will be necessary to accommodate the changed spectral signature of the combined analog and digital signals, the work required by the Commission in this scenario is minimal when compared to a "new band" solution and its intimidating requirements for a wholly new technical and allocation infrastructure, such as has been necessitated by the difficult and uncertain transition to Digital Television Service.

**C. The Commission Should Protect the AM and FM Service From Further Crowding That Could Negatively Impact an IBOC Service**

7. Currently, three entities--USDAR, Lucent Digital Radio (LDR) and Digital Radio Express (DRE)--are developing IBOC



systems for possible use in the United States. Each proponent has indicated to Greater Media that its ongoing system design is painstakingly tailored to the realities of the existing AM and FM service. At least one proponent has conducted exhaustive studies of existing allocation situations in order to assure that an IBOC system, once developed, would actually work in a real world situation. Of course, it is well known that the "real world" is a far different place than theory or allocation tables would predict. A majority of AM and FM stations are short spaced to co- and adjacent channel neighbors. The "packing" of the AM and FM bands and the relative severity of these short spacings are vital considerations in the design of any IBOC DAB system. A designer must take into account the realities of the crowded AM and FM spectrum as it exists today in order to develop a system that can actually provide the high quality and robust signal that is an absolute requirement for a new digital service.

8. For these reasons, Greater Media urges the Commission to place on hold any plans for any new AM or FM services, such as low power FM, that would undoubtedly impact the model each proponent is utilizing in its system design. To "fit" the amount of necessary RF energy into the existing spectrum necessary for an IBOC service is a daunting and exacting task. Every hertz of spectrum is critical to system performance. Under any

circumstances, then, the target for the proponents must not and can not be a moving one from a spectrum allocations standpoint.

**D. It is Premature for the Commission to Formulate New Rules for an IBOC Service or to Select an IBOC Standard**

9. The three proponents currently pursuing an IBOC solution for the United States are to be admired for their work. Their task is extraordinarily challenging and the path to any solution is difficult at best.

10. As the Commission is well aware, the current efforts to develop IBOC DAB represent the second serious attempt to seek a solution. In a prior round of system development by multiple proponents and testing under the auspices of the NRSC, laboratory tests on all submitted IBOC systems yielded disappointing results. Those systems were deficient because they failed to deliver a truly robust digital radio and caused unacceptable interference to both existing analog and proposed new digital service. The performance of individual systems varied widely, but none approached a workable solution. Nonetheless, rather than reflect negatively on the proponents, this first round of tests provided a strong indication of just how challenging and formidable the task of "squeezing" the new digital service into the existing AM and FM spectrum could be.

11. With the passage of time, however, new proponents and new technology have been brought to bear on formulating a workable solution to the IBOC DAB problem. The NRSC, an industry group jointly sponsored by the National Association of Broadcasters and the Consumer Electronics Manufacturing Association of

the Electronic Industries Association, has reactivated its DAB subcommittee to examine these new IBOC systems and to formulate voluntary testing guidelines that would be used for comprehensive and rigorous evaluation of such systems. The NRSC's past work during the first round of testing makes this group uniquely qualified to undertake this second effort. Although the testing procedure will be somewhat changed in the current iteration -- testing will be conducted by proponents on their own with NRSC oversight rather than in a single lab -- it is anticipated that the data collected through this process will provide a valuable measure of system performance in the critical areas of robustness and interference.

12. Clearly, until such data is collected and analyzed, it will be simply impossible to determine whether any of the proponents' systems truly functions in a manner which is compatible with the existing analog service and provides a robust digital service that is a substantial improvement over existing AM and FM analog service. In this regard, it should be emphasized that, prior to the initiation of formal, comprehensive testing, several of the first generation IBOC DAB systems were thought by some to be workable solutions. Testing proved otherwise.

13. Testing in an environment which does not favor any particular IBOC DAB proponent is the key to the whole process. Testing will reveal most if not all of the pertinent information that the Commission will need to: 1) determine the viability of the various systems; 2) determine the spectral requirements and

thus the need for any new or changed technical rules to define and protect the new as well as the existing services; and 3) assuming viability, determine whether one or more proponent systems is clearly superior and thus potentially suitable for selection as a transmission standard.

**E. The Commission Ultimately Should Select an IBOC Standard**

14. Once the industry committees observing the progress of the current proponents have completed their work, and assuming that one or more IBOC systems appear to be suitable for implementation, Greater Media urges the Commission to select a single transmission standard. Such a standard is necessary to allow a seamless implementation of the new IBOC DAB service across the universe of broadcasters, receiver manufacturers and consumers.

15. In the past, consumers in particular have not been well served by "marketplace" solutions or solutions which embrace multiple standards. The outright failure of AM stereo, a service enhancement that initially had the potential to reinvigorate the AM service and provide a wholly new band of stereo programming to the public, is an instructive historical example. AM stereo died a painful death as a result of the decision, preceded by interminable debate, not to select a final standard. In the case of IBOC DAB, all parties--broadcasters, manufacturers and consumers--need certainty that every radio will work seamlessly on every station. Without it, there will great reluctance by broadcast equipment and consumer receiver manufacturers to roll out

the new service in a timely and effective manner. There will likewise be enormous consumer resistance to embrace a technology in the absence of any assurance that equipment will not become obsolete and/or utterly fail to serve its intended purpose. Greater Media submits that a single IBOC system and transmission standard is essential to the ultimate success of IBOC DAB. The Commission must not refrain from prudent regulation in this regard out of a misplaced reliance on the marketplace to sort out "winners" and "losers" at the expense of the public interest.<sup>2</sup>

**F. An Integrated AM and FM Solution Is Necessary**

16. Greater Media would not support an IBOC system that did not include both an AM and an FM solution. An integrated AM/FM solution is key to the IBOC concept from both a listener and broadcaster standpoint. Receiver manufacturers must be able to provide consumers with digital receivers built according to a single, integrated standard that will allow substantial upgrades in quality of audio and robustness of service on both bands. The Commission must be careful to avoid a situation where consumers might be required to purchase several iterations of receivers to obtain the ultimate solution for both broadcast bands.

17. Likewise, AM and FM broadcasters should have the opportunity to upgrade to a digital service simultaneously. Such

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<sup>2</sup>Greater Media observes that, in an analogous situation, the Commission wisely selected a single DTV transmission standard. There, the Commission boldly demonstrated its understanding that a single transmission standard would provide an important element of certainty necessary to implement a service characterized by enormous technical uncertainty.

an ability has the potential to substantially improve the quality and reception for FM station while allowing AM stations to provide "FM like" quality at the same time; in the latter regard, dual AM/FM IBOC DAB service could open the now-troubled AM service to a large number of new format choices which would otherwise not be practical given the low quality of today's typical AM radio. An FM-only or AM-only IBOC DAB system is not an acceptable solution to the smooth migration of U.S. broadcasters and listeners to a digital audio service.

**G. Transition Period**

18. Although the IBOC approach to DAB by definition has an inherent hybrid operating mode, allowing the simultaneous transmission of current analog as well as the new IBOC signal, the final goal of DAB implementation should be to achieve an all-digital system in an orderly manner. Such an all-digital system will provide better signal coverage, greater signal robustness and the potential for substantial data overhead in the transmitted bitstream.

19. Assuming that a viable IBOC solution emerges from the testing process, Greater Media would recommend adoption of a relatively long transition period prior to the initiation of the higher all-digital power levels that would be less compatible with analog service. In particular, a 12-15 year transition period is suggested in light of the replacement cycle of consumer receivers. In this regard, one of the major advantages of an IBOC system is that there is no advantage to abbreviating the

transition period because there is no spectrum to be reclaimed. Thus, a transition period that allows the consumer to be minimally impacted by the need to acquire new receivers in anything other than a normal replacement cycle time period is desirable as well as practical.

#### **H. Conclusion**

20. Assuming a viable system can be developed, IBOC is clearly the most appropriate solution to the problem of implementing digital audio broadcasting in the United States. Greater Media urges the Commission to encourage the proponents, to follow closely and participate in the work of the pertinent industry groups and committees and to act promptly towards implementation of an IBOC DAB system if such a system proves to be workable and compatible with the existing radio allocation infrastructure. At the same time, the Commission should not now propose specific rules or standards or otherwise favor one IBOC DAB proponent in any way. Further, during the current testing period, the Commission should defer any initiatives, such as low power FM, that would result in further crowding of the AM or FM band and wholly undermine the extensive and costly work of the IBOC DAB proponents.

21. The future of all communications is clearly digital. The uniqueness of the U.S. commercial radio system demands a likewise unique solution to the difficult problem of the transition to digital audio broadcasting. Assuming its viability, IBOC DAB is that solution.

WHEREFORE, for the foregoing reasons, Greater Media respectfully urges the Commission to proceed in a manner consistent with the views expressed herein and propose specific IBOC DAB rules and policies only in the event that the rigorous testing process now underway demonstrates the viability of IBOC DAB.

Respectfully submitted,

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December 23, 1998



**CERTIFICATE OF SERVICE**

I, Lisa G. Eyeson, Secretary in the law offices of Schwartz, Woods & Miller, hereby certify that I have on this 23rd day of December, 1998, sent by First Class United States mail, postage prepaid, copies of the foregoing **COMMENTS OF GREATER MEDIA, INC.** to the following:

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